

Young, James R.

----- Forwarded by Youfan Gu/US/MKS on 06/10/2003 02:58 PM -----

Matt Taylor

To: Garry Holcomb/US/MKS@MKSINST, Youfan Gu/US/MKS@MKSINST

06/10/2003 02:37 PM

cc:

Subject: Re: 41A-15794 Orders

Matt Taylor
Key Account Manager
MKS Instruments

DIRECT PHONE: (408) 750-0322

MOBILE PHONE: (408) 482-5286

70 Rio Robles Dr.
San Jose, CA 95134
Matt_Taylor@mksinst.com
<http://www.mksinst.com>

----- Forwarded by Matt Taylor/US/MKS on 06/10/2003 01:36 PM -----

Bob Maxwell

To: Luke Hinkle/US/MKS@MKSINST, Jerry Colella/US/MKS@MKSINST

03/24/1999 cc: Matt Taylor/US/MKS@MKSINST, Jim Hatch/US/MKS@MKSINST, Dick Jacobs/US/MKS@MKSINST, John
11:35 AM Hanzelka/US/MKS@MKSINST, Steve Sexton@MKSINST, Barbara Lewandowski/US/MKS@MKSINST, Bill

Stewart@MKSINST, Jeff Peters/US/MKS@MKSINST, Trish Cooper@MKSINST

Subject: Re: 41A-15794 Orders [Link](#)

Luke/Jerry – Here's the chronology we discussed. I can't swear to every detail, but I think it's pretty close. If there's a thread that stands out as the "root cause", I think it's that we "hurried" our way into a swamp. A lot of people in a lot of departments expended considerable efforts trying to do things quickly, without having enough information or without doing the necessary analysis. The result is that we are doing something four times that should have been done once.

Present Status – Engineering received four switches this morning. We're baselining them now. Until we finish, I can't commit to how fast we can turn them around. Once the baseline is done, we'll make the modification, verify performance and send them on their way asap. I should know where we stand late tonight or early tomorrow.

I see in the note from Matt that he needs 6 switches. Again, I only have four and I got them today.

Date (approx.)	Activity

6/10/2003

7/98	Original dead-band for 41A switches was 0.3%. Testing at MKS indicated that this spec. was too tight.
11/98	An EO to change dead-band to 3% submitted by Engineering.
12/98	AMAT had problems with chatter on a 10T (still at 0.3%) 41A switch on a loadlock application. Thinking that the dead-band was now 3%, AMAT/MKS agreed to increase the dead-band to 10%.
1/8/99	Subsequent testing indicated that switches that caused AMAT problems were built to the older spec. of 0.3% dead-band. Matt recommended AMAT use the standard 3% dead-band since we were confident that this would solve their problem. AMAT requested 10%.
1/99	Engineering was contacted, told that time was critical, and asked to do a quick, "back of the napkin" resistor calculation for a nominal 10% dead-band. Matt modified the switches in Santa Clara and provided them to AMAT.
1-2/99	The modified 10T, nominal 10% switches worked well in initial AMAT testing. In extended testing, AMAT discovered that if certain sequences were followed in a Maintenance Mode on their tool, a pressure change occurred in their loadlock. Sensing the pressure change (as it should) the 41A switch prevented the door on the loadlock from opening. Rather than modify their procedures, AMAT requested a special 100T, 25% dead-band switch.
2/99	Once again, Engineering was informed that time was critical and was asked to do another quick, "back of the napkin" calculation. This was done and special resistors and 100T sensors were sent to Santa Clara. The switch(es) were modified, again.
2/26/99	A modified unit was returned to Andover, identified as "not working". Investigation revealed components missing from the PC board and several poor solder joints. Since Matt Taylor was staying in Andover, Dick Jacobs requested that Engineering fix the unit and give it to Matt by Saturday evening (2/27). Given that the failed switch had now been modified by hand, at least twice, Engineering acquired a 100T switch from finished goods as back-up in case failed unit could not be repaired.
2/26-27/99	Further analysis of the circuit and testing (2/26-27) indicated that 25% dead-band is not attainable with the circuit as it's presently designed. Engineering discovered that modifications to the dead-band of this product are not "simple resistor changes" and we were lucky that the original 10T nominal 10% switch worked at AMAT. On Saturday, Jack informed Dick. Jack attempted to contact Matt and provide an alternate switch, but he was told that Matt checked out Saturday a.m. and could not be reached.
3/1/99	Information regarding the problem with 25% dead-band was communicated to Matt.
3/9/99	Engineering learned that AMAT agreed to 10T, 10% dead-band (back to the requirement we had in January). Janet Parello requested documentation from Engineering. With our hard earned knowledge that this is not a simple resistor change, and with a desire to provide a robust, manufacturable solution to AMAT we realized that analysis of the circuit and verification of performance was required. We hoped to verify one switch by 3/12, prior to making documentation changes. One unit isn't a meaningful sample size, but it's an indicator. 3/12 was the best date we felt we could provide documentation to Janet.
3/9-12/99	Engineering analyzed the circuit and using "found" parts, cobbled together our best shot at a proper 10T, 10% switch. Performance was verified and the switch was sent to Matt for final verification by AMAT. In course of working with this switch, Engineering learned that the assembly/calibration procedure used in Manufacturing yielded different results from what Engineering observed. We recognized a need to work back through the manufacturing procedures and find the source of the problem. At this point, it was still not clear that we have the procedures in place to make the special switch reliably in Manufacturing.
3/15/99	Discussion ensued between Jack, Janet and Dick. Because of the uncertainty caused by the problems discovered in the last switch, it was agreed to deliver 4 standard switches to Engineering. Engineering would use these to try and understand the discrepancy between Engineering and Manufacturing calibration/test procedures. Engineering would make the necessary modifications to these 4 switches and develop documentation based on the findings. Janet agreed to transfer the units to Engineering. She said the normal delivery was 4 weeks.

3/23/99 The switches were completed earlier than anticipated and Neil Clark provided 4 switches to Jack this morning.

Engineering needs time to baseline the units, provide the necessary modifications, and to confirm the modified performance. We are doing the baseline now and, based on the results, hope to have a delivery date late tonight or early tomorrow.

We still need time and production switches to resolve the procedural discrepancy and in our rush to ship these units, will lose that capability until more switches can be provided.

In the course of investigating this chronology, I learned from Dick that the switch sent to Matt on 3/12 worked at AMAT. This was the first indication Engineering had that the latest modifications were successful and it is information we required prior to making any further changes.


To: Matt Taylor/US/MKS@MKSINST
cc: Bob Maxwell/US/MKS@MKSINST, Jim Hatch/US/MKS@MKSINST, Dick Jacobs/US/MKS@MKSINST, John Hanzelka/US/MKS@MKSINST, Steve Sexton@MKSINST, Barbara Lewandowski/US/MKS@MKSINST, Bill Stewart@MKSINST, Jerry Colella/US/MKS@MKSINST, Jeff Peters/US/MKS@MKSINST, Trish Cooper@MKSINST
Subject: Re: 41A-15794 Orders [Link](#)

Matt,

I empathize with your frustration, but let's make sure we're all looking at the same data so we can fix what's broke and learn to avoid the next one. A chronology of the events is being prepared by Bob Maxwell and will be distributed so that we can see what happened and why. By the way, the present situation is not the result of someone intentionally screwing up or not caring about internal or external customers, so everybody just relax and focus on what we need to do now. (I believe we're not in as bad a shape as we might have thought.) If anyone has any doubt about what they need to do (or do differently), please contact Dick Jacobs or me to discuss.

Thanks,
Luke

Matt Taylor

 03/23/99 06:40 PM



To: Jim Hatch/US/MKS@MKSINST, Luke Hinkle/US/MKS@MKSINST
cc: Dick Jacobs/US/MKS@MKSINST, John Hanzelka/US/MKS@MKSINST, Steve Sexton@MKSINST, Barbara Lewandowski/US/MKS@MKSINST, Bill Stewart@MKSINST, Jerry Colella/US/MKS@MKSINST, Jeff Peters/US/MKS@MKSINST, Trish Cooper@MKSINST
Subject: 41A-15794 Orders



6/10/2003

Gentlemen

Several weeks ago, we determined that trying to use a hysteresis of 25% was impossible. On March 1, 1999, I was able to meet with Kelly Colborne and Fred Hariz and convince them that they MUST stick with the 2 Torr setpoint and 10% hysteresis that we originally spec'd for 41A-15794 (see history memo attached). I had confirmation from Dick that the paperwork was going through to finalize that the 41A-15794 was being changed back to 10%, 10 Torr FS, 2 Torr sp.

There is no hold up due to the customer, and hasn't been for more than 3 weeks. Kelly is now in crisis mode, requiring these switches for customers who are making threats regarding the inferior devices they are using (GP now, Edwards threat). Originally we had an order for (4) pieces of these switches to go to John Hanzelka to build replacements for assemblies already at Applied (see history attached). I have agreed to modify the devices that are already installed here, MYSELF. I agreed to do this so that the 4 units that have been on order for weeks, that were supposed to be my warranty replacements, can be applied to the two open orders for Applied (218964 and 221413). This way Kelly can make her customers happy, I can make Applied happy, and this ECO will finally go through.

Well, after more than three weeks of calls from HPS planning to MKS, they are still being told that the customer has not told us what the requirements are (please see attachment), and that is why MKS will not deliver the parts to HPS. I have been trying to help HPS expedite this order and keep things under control at Applied at the same time, but it seems to have hit critical mass and we need to deliver switches NOW.

We are not yet designed in with this assembly, and we are now dangerously close to losing this opportunity, since the customer is beginning to wonder if we will be able to deliver. Since I modified two pieces here myself, with instructions sent to me from Dick Jacobs, I really don't understand why we can't build 6 (granted, was 4, is now 6) pieces to fill our requirements. It requires changing ONE resistor.

Please respond to this message as soon as a true and ACCEPTABLE date can be provided to HPS, so that I can tell the customer that we can indeed supply what they need.

matt

----- Forwarded by Matt Taylor/US/MKS on 03/23/99 02:02 PM -----

To: Matt Taylor/US/MKS@MKSINST
cc:
Subject: 41A-15794 Orders

----- Forwarded by Rebecca Mongeon/US/MKS on 03/23/99 02:53 PM -----

6/10/2003

To: Rebecca Mongeon/US/MKS@MKSINST
cc:
Subject: 41A-15794 Orders

Rebecca,

Reference your fax to me earlier today...

I am in receipt of your new PO# 86706, however I cannot give you a delivery. The reason, as I understand it, is that your end user has not fully decided what they really want. Our engineering group is in touch with them and are being supplied standard units for modification in two weeks. When the customer and engineering issues are resolved, our planners can give me delivery information, which I will pass on to you. The same scenario applies to your existing PO# 85725, although the standard units being manufactured for modification are a little further along.

If you have any questions in the meantime, please let me know.

Regards,
Jim Hatch

----- Forwarded by Jim Hatch/US/MKS on 03/22/99 04:33 PM -----

To: Rebecca Mongeon/US/MKS@MKSINST
cc:
Subject: Re: [Link](#)

Hello Rebecca.

I thought I'd let you know that I submitted this request to our Production Planner this morning and am still waiting for lead time information. As soon as I get it, I will let you know.

Regards,
Jim

To: Jim Hatch/US/MKS@MKSINST
cc:
Subject:

Good Afternoon Jim,

I need to place an order for 2 ea 41A-15794. I have 4 on order currently. What is the leadtime for this gauge? Please advise, I would like to place an order on Wednesday.

Thanks,

Rebecca

6/10/2003

